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|  | **Biology** | **شعار-القسم** |
| **Worksheet-9 a -** |
| How toxins build up in a food chain |

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| Name: Class: 8 /……........ | |
| Book pages:480-493 | |
| **22-3-2012** | Date: |
| 8.5.3 | Core Standard number |
| 1. Explain the concept of Toxins. 2. Explain how mercury is released in the environment. 3. explain the harmful effect of mercury. 4. explain the concept of insecticides giving DDT as an example 5. explain the harmful effect of DDT | Learning Objectives  Logo + text 2 |

Q1: what is toxins?

Toxic materials ( poisonous). Some quickly break down into harmless substances in the environment. Others are persistent and do not break down. Instead, they accumulate in the food chain and damage the organisms in it, especially the top predators ( ex; Mercury and DDT )

Q2: what is mercury?

it is a natural occurring metal in soil, rocks, biomaterial and bodies of water.

Q3 : How mercury is released in the environment?

It can also be released into the environment by human activity like burning fossil fuels, industrial processes, waste disposal and mining

Q4: What effect does mercury have on humans?

when it gets into the food chain It affects the immune system, alters genetic and enzyme systems, and damages the nervous system, damaging developing embryos

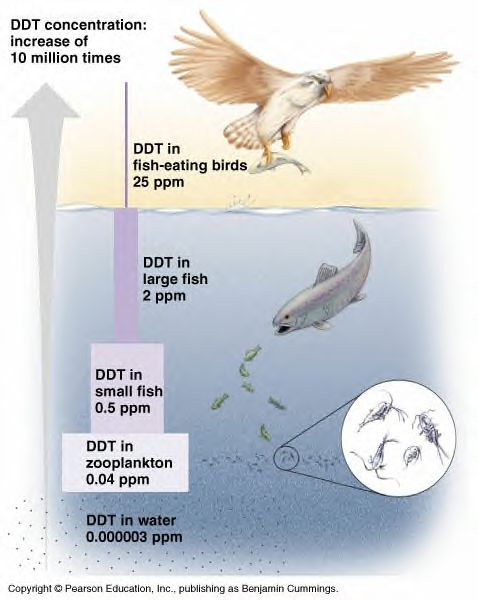
Q5: What are insecticides?

chemicals that kill the insects that damage crops like DDT

Q6: why is DDT harmful substance?

Because it can pass up the food chain from insects to small birds, and then from the small birds to birds predator like hawks.

Q7: Given the following food chain:





Tuna

Tuna

1. which organism in the above food chain will accumulate the highest concentrations of the insecticide? Explain your answer.

The hawk.

The insecticide accumulates in the bodies of consumers as it moves up through the food chain, so animals at the top of the chain(tertiary or secondary consumers) will have a greater accumulation

1. how much mercury consumption from canned tuna is too much?

½ can per week for children between the ages 1 to 4

1 can per week for children between the ages 5 to 11

2 cans per week for pregnant or breastfeeding mothers

6 cans per week for the average adult